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Fifty Cents

California **GARDEN**

M. BROCK

SPECIAL EVENTS

March 22 & 23: Ikebana International, Chapter 119 will exhibit its Seventh Annual Festival of Ikebana & Japanese Art; open both days 11:00 a.m. to 4:30 p.m.; Casa del Prado; FREE.

April 4 through 6: San Diego Orchid Society will present its 28th Annual Orchid Show in the Conference Building, Balboa Park; April 4th is the Preview Reception 7:00 to 10:00 p.m.; April 5th, 10:00 a.m. to 10:00 p.m.; April 6th, 10:00 a.m. 5:00 p.m.

April 5 & 6: Carlsbad Iris Show "Iris Wonderland" in the lower mall at the Camino del Plaza in Carlsbad; April 5, 12:00 to 7:00 p.m.; April 6, 12:00 to 5:00 p.m.; FREE.

April 12 & 13: Coronado Floral Association presents its 49th Annual Spring Flower Show at Spreckels Park (Orange Avenue in Coronado); April 12, 2:00 p.m. to 6:00 p.m.; April 13, 10:00 a.m. to 4:00 p.m.

April 20: Convair Garden Club will present their Rose Show in the Majorca Room (#101) of the Casa del Prado; FREE.

April 23 through 26: San Diego hosts the National Convention of the American Iris Society at the Royal Inn at the Wharf on San Diego Bay.

April 24 & 25: San Diego hosts the 85th National Rose Convention at the Town and Country Hotel, Hotel Circle, Mission Valley. (CORRECTION FROM LISTING IN LAST ISSUE--Entries for the show will be accepted on Thursday April 24th from 7:00 to 11:00 a.m. at the Convention Center).

April 26 & 27: San Diego Bonsai Club will stage their 10th Annual Exhibit in the Casa del Prado, Balboa Park Room 101; April 26, 10:00 a.m. to 10:00 p.m.; April 27, 10:00 a.m. to 6:00 p.m.; FREE.

April 26 & 27: First show of the Ichiyo School of Ikebana will be held in the Memorial Library (Room #104) of the Casa del Prado; April 26, 1:00 p.m. to 4:00 p.m.; April 27, 10:00 a.m. to 4:30 p.m.; FREE.

April 26 & 27: Poway Valley Garden Club's Standard Flower Show at the Meadowbrook School, Meadowbrook Lane off Pomerado Road; April 26, 1:00 p.m. to 5:00 p.m.; April 27, 10:00 a.m. to 4:00 p.m.

May 4: San Diego Epiphyllum Show, Casa del Prado, 11:00 a.m. to 5:30 p.m.

MEETINGS

April 6, 1975: Tour of Mrs. David Woodward's beautiful Point Loma garden; 11:00 a.m. to 2:30 p.m.

March 24, 1975: Mrs. Kirkpatrick's Flower Arranging Demonstration; Room 101 Casa del Prado 10:00 a.m. to 12:00 noon.

TOURS

April 12, 1975: Palm Springs Tour; Back country scenery and any wildflowers in bloom at the time on our way through Borrego; your choice of shopping in Palm Springs or the tram to the top of San Jacinto; visit to Hadley's and a dinner stop; \$10.00.

May 17 & 18: Santa Barbara and Solvang; Tour of the Santa Barbara Botanical Gardens; spend the night in Solvang and tour on Sunday before returning home Sunday evening; transportation & motel included for \$32.50.

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ABOUT THE COVER

On the cover is a drawing of a California native from Bill Gunther's Del Mar garden. *Iris douglasiana*, named after David Douglas who collected it in 1833, hugs the coast from northern Santa Barbara County to central Oregon. It is found on windswept headlands and grassy knolls along the ocean and on bare or sparsely forested hills a few miles inland. It is prominent in pastures since cattle will not eat it and is most aggressive in its occupation of road banks. In Greek mythology, the iris was a rainbow, and our *I. douglasiana* carries on this tradition with colors ranging from cream and yellow through lilac, lavender and blue to reddish purple.

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Orchids

by Byron H. Geer

San Diego County Orchid Society

NATURALLY you are going to attend at least one of the major Orchid Shows in the Southern California area this spring, and, just as naturally, you are going to resolve to do a better job of growing your Orchids in the future. I don't know about the rest of you, but a good show always leaves me with the "Why don't I throw everything out and start over" feeling. In terms of plain economics, I can't afford to do this, and probably wouldn't if I could. In any case, the limitations of budget keep most of us plain dirt gardeners out of the award quality Orchid class. But the one thing that we can do is to accept those limitations and make the most of them. There is no excuse at all for poorly grown plants, even if they are of the more common garden varieties. We should be doing the best job of growing that we know how to do; if this isn't good enough, it behooves all of us to find out what we should be giving the Orchids that they are not getting, and to provide it.

The common complaint from most of the small operation Orchid growers is that the plants didn't bloom as they should have. In nine cases out of ten, this is entirely a matter of culture although within this past year a cool summer and a wet winter have certainly done their part. There are Orchids that bloom faithfully on every

growth, but there are also Orchids that are touchy enough to resent repotting, dryness and/or lack of food. Even the professionals who spend twenty-four hours a day fussing about their plants don't bloom every plant every year, and don't let them kid you into believing that they do. The point that I am trying to make here is that if your plants consistently don't give you blossoms, it is *probably* a matter of culture. You, and you alone, are responsible, and the first thing to do is to take a long hard look at the growing conditions you have provided for them.

Orchids are remarkably tough plants and will survive under the most adverse conditions. I use the term "survive" here because that is exactly what I mean. They will live, and that is about all. If you are going to expect bloom, you will simply have to adjust their environment to something in which they will grow happily. In the case of *Cymbidium*, the trouble is usually in the potting medium. They want a loose, porous, well drained but moisture-retentive compost, and all too frequently they don't get it. They will grow in dirt, peat moss or fir bark, but if you use any of these materials straight you are automatically headed for trouble. Dirt is anything but loose and porous; peat moss is anything but well drained and fir bark is anything but moisture retentive. In combination

with other media however, peat moss and fir bark may be used. I find a mixture of fir bark, redwood shavings and shredded redwood does a quite satisfactory job if used in equal proportions. This mix does not pack too tightly, requires watering each seven to ten days depending on the weather and does not encourage an alkaline salt build up. It will require feeding since there is little or no food value in the compost itself.

This brings us to the second problem. Orchids are generally rapid and robust growing plants. They must have a generous supply of nutrient during the growing season since it takes a good deal to produce fat healthy bulbs with bloom spikes. Hit or miss feeding is not going to bring about satisfactory results. A constant, consistent feeding program is an absolute necessity, and this does not mean a dab of fertilizer once a month. If liquid foods are used, a light feeding once each week is not too much. There are now slow acting solid dry food tablets on the market which will provide adequate nourishment for a period of three months, and I heartily recommend them. You are at least assured that the food is there if the plant needs it, and the tablets are a time and energy saver. This may be the lazy man's way of feeding, but it works.

And, of course, all the feeding in the world is going to do no good unless the supply of water is balanced. The *Cymbidium* especially require a good deal of water during the active growing season, and must never be run dry at any time of year. If the compost is proper, it is almost impossible to overwater since most of the water given will simply run out the bottom of the container. Dry, shrivelled, leathery bulbs and leaves are a sure sign of an inadequate water supply, and lead inevitably to small spikes with few flowers. How often then, should *Cymbidium* be watered? Just as often as the compost starts to dry out, and if this means twice a day, so be it.

The one other major consideration for the Orchids is light. There was a time not too many years ago, when Orchids were thought to be shade plants and too much light was to be avoided. That picture has changed



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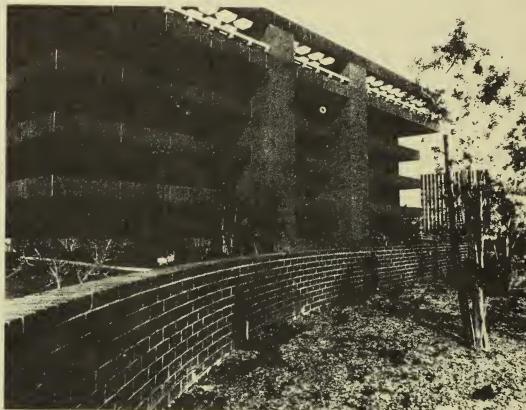
radically, and it is proven that Orchids will grow like weeds in heavy shade, but will not do the best job of blooming. The rule today is all the light (but not direct sunlight) that the foliage can take without burning. The plants will not look as healthy as if they were a lovely emerald green, but most people grow Orchids for the looks of the flowers and not for the beauty of the foliage.

Given the proper combinations of compost, food, water and light, most of the outdoor Orchids will respond with healthy, hard foliage and bloom spikes. And it's worth repeating here that what you do with the outdoor Orchids within the next few months is going to predetermine whether or not you have bloom next year. If you wait until August or September to start preparing your plants to bloom, you are going to be sadly disappointed next spring. Cymbidiums and Cypripediums send out their flowers from the new growth, and the time to ripen and fatten those new growths is in the warm growing months of the year.

The indoor, or greenhouse Orchids, present exactly the same requirements insofar as compost, food, water and light are concerned. In addition, however, they also need a good balance of heat and atmospheric humidity. The Cattleyas, Vandas, Dendrobiums and Phalaenopsis will not perform well without minimum nighttime temperatures of 50-55 degrees, and 60-65 is preferable if this can be maintained without astronomical cost. Daytime temperatures may run clear off the thermometer providing 70-80 per cent relative humidity can be given through the use of fog or mist sprayers. Heat in itself is no problem, but heat *without moisture* will kill your plants faster than you can replace them.

Take time out from looking at the blossoms while you are at the Orchid Shows this spring, and cast critical eye at the plants themselves. Check out the various potting media, the evidences of adequate food and water, the color of leaves and bulbs, the uncrowded condition of the plants in pots, the indications of good, strong light. You won't see poorly grown plants at the shows, I'll guarantee. The people who show Orchids want to do a good job of growing them, and the results are all there for you to see. After all, the will to do an acceptable job is one of the most important requirements, even more important, perhaps, than compost, food, water and light. These can be controlled, but if the will is not there, nothing else really matters.

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The Spurious Spuria

by JAMES LaMASTER

Drawings by SALLY BANCROFT

FOR SIX YEARS I have been having a love affair with a bastard. Even though the object of my affection may have questionable parentage, my love affair itself is very legitimate and quite proper. This essay is to interest you into joining me in that love affair.

D. Donn, in the BRITISH FLOWER GARDEN of 1833, records that this floral group was erroneously named because Linnaeus entertained that this series of *Iridaceae* was an unwanted accidental progeny resulting from a cross of the bearded *Iris germanica* and the beardless *Iris foetidissima*. Accordingly, he named the presumed interspecies hybrid 'spuria' thinking that it was a freak of nature that like the mule, would prove to be sterile. Therefore, I am left wishing the botanist had observed it for a longer period of time before naming it. How much better it would have been accepted in gardening circles if it had been tagged 'virtus' for its strength, courage and virtue.

Today's market offers spurias in all the colors of the iris rainbow on bloomstalks ranging in height from eight inches to six feet. Hybridizers are erasing the yellow signal from the falls to develop pure whites and at the same time are coming out with very dark red-blacks, purples, reds, bi-colors and color patterned blossoms that are nearing the plicatas of the long-time favorites, the tall bearded irises. Yet, some of the best, so far as color and performance are concerned, are some of the oldest known cultivars.

The two English hybrids, Premier and Cambridge Blue, introduced respectively in 1899 and 1910, are musts for every perennial garden. Of course, they would not be appreciated by anyone who dislikes tall bloomstalks of seven open blossoms of forget-me-not blue produced by Cambridge Blue, or the yellow and violet medium sized stalks and flowers of Premier. Once one

sees an established clump of either of these in full bloom, names are obtained along with the location of the nearest wholesaler. There are larger flowered more ostentatious cultivars which are beautiful in their own right, but none can out shine my old friends.

If you should desire clumps of yellow to highlight the garden, there are sundry cultivars from which to choose. I recommend, in the following order, Golden Lady, Elixir and Orange Maid. The first is a solid colored flower of pale yellow while the latter two are orange-yellow. Each of these varieties has something special to say for itself as to flower size, color, duration of bloom season and flower placement on the stalk. Of late, much good publicity for a particular yellow spuria cultivar has put this cultivar in the limelight of the iris world. This is the only pure yellow spuria with which I am acquainted that sunburns and is not a consistent performer in the garden. Beware of the commercial hybridizers!!

If your garden needs a spot of white, I suggest that you invest in one of the following: Windfall, Dawn Candle, Ruffled Canary, Lydia Jane, Imperial Song. Any plot that can accommodate all of these will be more beautiful for the toil. Here again I have listed the varieties according to my personal preference.

Lest this become a chronicle, I close these varietal comments with some of my favorite cultivars. Baritone is a large flowering tall cafe au lait cultivar, in my opinion the best in its color class. Imperial Burgundy, Red Oak, Red Clover and Redwood Falls are various shades each resembling a good red wine. Imperial Burgundy is perhaps the darkest red, while Red Oak is the smallest blossomed and shortest stalked of these. Red Clover has rose flowers on six foot tall stalks and is the strongest garden variety in this color class. Redwood Falls

is a large flowering burgundy-red with bright yellow signals. All of these dark colors are harder to maintain because of the common weakness of virus marked blossoms and slower rhizome increase because of the same virus. For some unknown reason (at least unknown to me) this virus is much stronger in all the darker colored spurias resulting in fewer bloomstalks. My newest love, Crow Wing, is the darkest colored spuria I know, but it has only bloomed once for me in three years and at present only has three fans. Purple Knight and Proverb are both a nice even royal purple with a small signal area. These are worth the effort for anyone who has an aristocratic taste for color.

In my opinion, the most overlooked spuria is one I grow as Gray Lady but which may really be Silver-Grey registered in 1957 by the same hybridizer who introduced Golden Lady. No matter what the name, this is the most subtle colored spuria I know with its gray-lavender blossoms. This cultivar will work in well with any landscape planting and will be amicable with any strong colored flowers in a floral arrangement.

Perhaps the most endearing quality of these plants is the fact that they perform best when given a minimum of care and attention. Before purchasing spuria rhizomes the planting area or areas—in full sun at least half of the day—should be enriched with compost and/or some commercial soil builder. If a planting area about the size of a bushel basket in circumference and depth is prepared, then the plants will remain happy for three to six years depending on how fast the variety increases. (Plant not more than two rhizomes of a variety in such a plot.) The use of a relatively weak but balanced systemic fertilizer (I use 8-8-8) at six or seven week intervals from November through March will insure the best possible results from the various clumps. This same fertilization rids the garden of aphids, thrips, some chewing pests and strengthens the darker colored varieties against the viral marked blossoms. This series of iris likes good drainage but lots of water during growing and blooming seasons. If kept watered, the clumps are green throughout the year and do not suffer from lack of a six month vacation which some growers give in order to save water. These are really minimal requirements which will result in many hours of pleasure and

admiration.

This has been an attempt to introduce into your garden some of the most satisfactory perennials and to explain that they have been misnamed since discovery with very distasteful nomenclature. Although a spuria by any other name is still a spuria, I truly believe that if you plant one variety according to the above directions, you will love them as I do. □



Boston in California

by BARBARA JONES

BOSTON FERNS HAVE BEEN favorite house plants since the first one was discovered in 1894 in Cambridge, Massachusetts, in a shipment of sword ferns. It was named *Nephrolepis exaltata* "Bostoniensis" because it liked high humidity and came from the tropics. History does not record why it was named "Bostoniensis" instead of "Cambridgiensis". The fern grew very well in Victorian homes, fitted the parlor decor and immediately became very popular. In fact, no "well appointed" home was without one. With the present trend to decorate the home with living plants, the Boston Fern is again very popular.

At the present time there are more than fifty variations of the Boston Fern named, and many of these varieties are available. *Rooseveltii* with wavy leaf margins and deeply lobed tips and *Whitmanii* with finely cut and feathery fronds are two well-known varieties.

The Boston Ferns make excellent container plants and are very effective in hanging baskets. They like plenty of light but should not receive direct sunlight. Container plants should be fed monthly with a pellet or liquid plant food. Special "fern foods" are available, too. They should be watered when the soil dries out—about every three days in a cool location, but daily in a warm, dry location. The fronds should be misted with water occasionally. The planting mix should drain well and a mix of three parts loam, one part humus (leaf mold, peat moss, shredded bark), and one part sand is satisfactory. The plants are relatively pest free, but should be examined for spider webs. (Those brown spots, regularly spaced, which appear on older fronds are spores, a type of reproductive cell.) Anthracnose is one of the serious diseases of the Boston Fern. The plant will appear blighted, with numerous dead fronds outnumbering the living ones. Brownish lesions appear on the fronds

and if the plant is kept moist, small white patches will appear on the lesions. The dead and infected fronds should be removed, and care taken that the foliage is not dampened when watering. High humidity should be avoided. A plant can be cured, but a badly infected one should be destroyed. Many Boston Fern enthusiasts recommend that the plant be washed monthly (to six weeks) with a soap solution (not detergent) and rinsed well to clean the plant and to prevent any pest infestation. This can be done in a shower or tub with the plant placed on another pot to elevate it and protect the drooping fronds. All brown and damaged fronds should be cut off routinely as well as those long stems (runners) which will sap strength from the plant. With care, the fronds will become five feet long—so, if your space is limited, find one of the smaller varieties.

In southern California near the coast, Boston Ferns make a very effective outdoor plant in open ground. They are often used to create a woodland garden scene. They do well under pine trees with weekly watering. A misting during Santa Ana conditions is helpful, but if the plants are in a protected area they will survive without it. A good cleaning out of old fronds and runners in spring and fall is needed. This is a good time to feed the plants. The plants will grow to five feet tall in two years and will spread avidly. Every seven to ten years the plants should be dug and replanted so that humus can be incorporated into the soil. After replanting the ferns will need a light watering between the weekly deep watering until they are established. Don't be surprised to see the family dog lying in the fern bed on a warm day. A fern bed is a cool and restful place to be in or to observe. Best of all, when once established, a fern bed is easy for the home gardener to maintain. □

The Vanishing Chaparral

by BENJAMIN H. BANTA

IN THE NOVEL by James Fenimore Cooper "The Last of the Mohicans", a once proud and glorious people are reduced to two survivors—a father and a son, and at the end of the story only the aging father survives. I would suppose comparable narratives have been or will be written about many comparable sub-groups of human beings. However, I would like to make the analogy with certain groups of our indigenous plants. Not only did the European settlers attempt to eradicate the indigenous peoples of North and South America as well as many other parts of the Earth, but they brought with them an attitude that most things should be like they were in the dear old homeland.

In the eastern United States the vast hardwood forests were felled to make way for European style agriculture. The sound of the axe was prevalent for several hundred years after which the American environment was modified drastically. The forests were cleared. Animals which existed in unbelievable numbers in these forests were destroyed and in the case of the passenger pigeon, which had existed in fantastic numbers, actually became extinct.

In western North America things were a little different. The North American bison, once teeming in what is now the central Great Plains states, was reduced to a few survivors to make way for the grazing of cattle, horses, goats and sheep brought from Europe, as well as the planting of vast acres of wheat and other cereal grains. In coastal California trees were not as extensive as in the east. But, the European attitude—as developed by the "American" pioneer that we have to make way for progress (and progress is to change things as close as possible to the way they were wherever we came from)—reigned supreme for many years. This attitude still rules the kingdom.

In southern California many homes are built

by developers after the bulldozer usually clears and levels whatever was in existence before. After the home is built, some sort of landscape architect comes forth with a plan to plant grasses and all sorts of plants from all over the world—usually Europe, Australia, North and South Africa, China or some distant and exotic area. Rarely, if ever, are our native plants considered possibilities. The native plants, and we do have a number of extremely good looking native plants, are totally neglected. The treatment of our native plants is very comparable to our treatment of the people who were here before the settlers arrived from across the Atlantic Ocean. The attitude, which in my opinion is still ingrained in the American psyche is that the only good native plant is a dead one. They are referred to as "weeds". The native plants are considered like the "savages", the American Indians.

The way things seem to be developing now indicates that unless there is a drastic change in past trends, it will not be many decades before most of the native chaparral will exist as pictures in the Audubon Magazine. Surely this would be a great loss.

I recommend that more people attempt to grow native plants, especially in the new housing developments. The southern California climate is not conducive to large lawns, but it is favorable for many kinds of flowering plants that have evolved in the region over many millions of years. These plants can not only survive but they can thrive and greatly increase our awareness of the truly wonderful environment in which we live. □

EDITOR'S NOTE: The author of this article is an Associate Professor of Biology at United States International University here in San Diego.

Arils and Arilbreds

by DORIS FOSTER

ALTHOUGH WE BEGAN moving our aril-arilbred iris garden just 18 months ago, we are still working out cultural problems due to different soils, temperatures and humidity. The previous owner had used weed killer extensively, and not a weed was to be seen when we purchased the property. Many areas were shaded due to plantings of pines, oleanders and myoporum, a billowy wide-spread tree. In winter the neighbors' oleander hedge gave our lower rows of arils too much shade. A mere mention of the problem brought wonderful cooperation instantly. The oleanders were trimmed to a three foot height, which seemed drastic, but in the summer they were more beautiful than before.

We learned what NOT to do when we used sewage sludge on our beds of regelias and Bushey and Holden aril hybrids. It may be that the problem was too much salt. Only one in a row of oncogelias survived. The regelias tolerated it somewhat better and the aril hybrids did best of all. It was a good test of the wider tolerance of hybrids for adverse conditions.

For the balance of the aril bed, we used spent mushroom compost. Growth was spectacular, and in 1974 we enjoyed dozens of beautiful aril hybrid blooms. Two of the Bushey hybrids were Nigerian Night and Bagdad Bauble. These were introduced on the 1974 Aril Society Plant Sale list.

Our rows were planted three feet apart on the contour of the slope, with trenches above each row so that we could water by irrigation rather than overhead. We hoped to avoid problems with fungus and leaf spot by keeping the foliage dry, but after heavy spring rains, we discovered both leaf spot and rust—an extremely unsightly disease. About this time we learned about Plant-Vax, manufactured by UniRoyal. It is most effective

in killing rust spores. An antibiotic is used for the bacterial leafspot, Cygon E or Meta-systox to keep insects under control, and last year these were effective in keeping cottontail rabbits from eating the arils to the ground. This season the systemics didn't seem to help, as the arils had a continual short "haircut". The rabbits really relish pure arils! Finally we installed a three foot high chicken-wire fence. It is gratifying to see the healthy aril leaves now a few inches tall.

Last fall we planted the balance of the Bushey aril hybrids, donated to the Aril Society before Frank Bushey's death last June. These were developed from wonderful breeding material—the work of Lloyd Austin, Herbert Kerr, Leo Clarke, and others, together with the Van Tubergen regeliocyclus hybrids, regelia and oncocyclus species. Those with regelia in their background are easier to grow, and sometimes have two blooms per stalk. We feel the Bushey hybrids are very important in developing arils that anyone can grow.

Our new aril and arilbred beds, planted in the fall of 1974, are on a beautiful half-acre to the rear of our previous plantings. The slope and exposure are perfect—to the southeast so that the irises benefit from the morning sun. For years the winter blanket of grass and weeds has been disked into the soil which is a clay loam. We used gypsum liberally as well as spent mushroom compost, and rototilled it into the soil. The wild mustard has given us trouble in spite of using Treflan, a pre-emergence weed killer. From now on individual beds will be fumigated with methyl-bromide to destroy weed seeds, fungus spores and nematodes. The gypsum is used to improve drainage—it gives the clay soil a crumb structure, neutralizes the salts in our water, and supplies calcium and sulphur. It does not change the pH balance. The soils in Palestine where many

onocycloides species are native, have a high percentage of limestone. The use of gypsum or dolomite (calcium and magnesium) is advocated by such an authority as Michael Hoog of Van Tubergen's in Holland. He writes that they even dust the rhizomes with dolomite-chalk, saying it is essential for the well-being of the plants.

For those of you preparing a bed for arils or arilbreds, I would suggest the following:

(1) Work in copious quantities of humus-mushroom compost, redwood, et cetera. Manure may be used if worked in six months or more before planting.

(2) Using dolomitic limestone or gypsum (1 to 1½ pounds per square yard), for working into the soil.

(3) Try dipping the plants in a combination insecticide, fungicide and nematicide before planting. Do this also before shipping to other growers.

(4) Do your planting on ridges to allow for good drainage. Watering by irrigation in trenches is a good idea. Space plants generously if possible. It is best not to water-in pure aril plants—in a week or so they are more likely to have the beginnings of new roots, and can use the water.

(5) Use preventative sprays during the growing season and especially before bloom season. Fertilize when needed. Our soil is rich, so we have used only the humus and limestone mentioned.

(6) Cease watering as soon as most bloom is over. This is essential to ripen the rhizomes and prevent problems from rot. If summer rainfall is a problem, use plastic for protection at a height of three feet or more above your aril beds. If this is not practical for you, it is best to dig pure arils when the leaves turn brown. Trim the leaves short, wash the plants well, dip in the combination mix, and dry thoroughly before storing. After planting in the fall, growers in cold areas usually apply a thick mulch of a light material after the first hard freeze. This helps to keep the plants dormant. Remove the mulch after the usual frost period has passed.

For an expanded bloom season, try a few of these suggestions. More is being learned about "iris culture" all the time and in particular arils. To add new excitement to your garden, try the arils. □



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Japanese Irises

by BILL GUNTHER

Drawing by SALLY BANCROFT

WHEN IT COMES to selecting irises for use in competitive artistic floral arrangements, Japanese irises are what the arrangers most desire but are least likely to find. They are hard to obtain.

It is perfectly safe to say that in the last ten years, no show committee of any Ikebana show or of any iris show in the southwestern portion of the USA has been able to provide bloomstalks of Japanese irises in quantity to meet the desires of the arrangers. As a result, the gals have had to use some other type of iris as a second choice substitute. And all other types are inferior to Japanese irises when it comes to arrangements, particularly so when it comes to arrangement categories which are in the oriental mode.

Since the arrangers know by now that the show committees can't provide enough Japanese irises, and since they know that they can't buy Japanese irises at the florist's shops, what should they do?

They should grow their own Japanese irises, that's what!

The whole point of this article is to encourage them to do so, and to tell them how to do it. Japanese irises have a reputation of being notoriously difficult to grow in this area, but that reputation is not deserved. It is true that Japanese irises in these parts will soon die if they are just stuck into the ground and treated the same as other irises. But, they will perform here very well if their very special requirements are met.

The special requirements which Japanese irises need are an acid soil condition, plenty of moisture, and a minimum exposure to alkaline chemicals and certain salts. In this area, the easiest way to meet those requirements is to grow your Japanese irises in pots which are partially submerged in a pond.

A garden pond made of concrete is excellent

for this purpose if it is an old one. Not if it is a new one, however, because small quantities of lime exude from new concrete for a long time after it has hardened; this lime is alkaline—it dissolves into the water and will kill Japanese iris plants.

For those who do not have an old fishpond, an inexpensive and readily available alternative is to get a child's plastic wading pool from your nearest discount store. Another alternative is to use bricks or boards to construct a low curbing around the area to be made into your pool, then lay a piece of plastic sheet over it all, with edges extending over the curbing, and fill it up with water from your garden hose.

A small piece of the rhizome, or underground rootstock, is all that is needed to start a new Japanese iris plant. A source for these rhizomes might be a neighbor or a friend who grows Japanese irises; also they are available from a few local nurseries, and they are available by mail order from a few speciality iris growers. Procedure is to fill plastic pots of two gallon size with a mixture consisting of half soil and half humus and a small quantity of "soil sulphur", but without any fertilizer or other additives. Plant one rhizome section about half an inch deep in each pot, then set the pot into about two inches of water. The speed at which the plants will sprout depends on the season, but as soon as the new green shoots are about two inches tall, they should be fertilized by adding an acid food (such as camellia fertilizer) to the water in the pond. Feed again at monthly intervals, using increasing quantities of fertilizer as the plants grow larger. Never use steer manure and never use bone meal on Japanese irises.

A few small goldfish or any other kind of fish in the pond will prevent mosquitoes from breeding in the water. Put a start of azolla or of duckweed or any equivalent small floating plant in the pond;

these plants will quickly grow into an attractive green surfacing on the water which will prevent growth of all forms of algae. You won't need to hunt for tree frogs to put into your pond; they will find it themselves without your help, and they will sing beautifully for you during springtime evenings.

Later in the season, when your own floral arrangements receive honors as the Best Artistic Arrangement in the Show, it will delight you to be able to announce proudly to everyone that the sensational Japanese irises which really won the award were grown by you personally in your own garden pond. □



Sally Bancroft

FLYING TIGER

Drip Irrigation

by ED KARIG

A DRIP TYPE irrigation system has solved several watering problems for one La Jolla gardener on the slope of Mount Soledad. The overhead sprinklers first used were wasteful, especially on windy days, and practically useless for the deep watering needed by young trees and shrubs due in part to run-off because of slow penetration into the heavy clay soil. The drip irrigation system now provides a uniform flow of water around the base of only the plants needing water and slowly enough to sink in deeply over a period of several hours. This makes it possible to plant both desert type shrubs not amenable to overhead watering on the same slope with cultivated shrubs or fruit trees requiring considerable water. A side benefit is that weeds are now much more easily controlled.

The system uses polyethylene piping and 3/16 inch O.D. vinyl "spaghetti" tubing leading to small plastic distributors located at the base of the plants being irrigated.

Slope coverage is accomplished by running several 3/4 inch parallel pipes down the hill about twenty feet apart, connected at the top of the slope by a common header connected to the water supply, and capped at the lower ends. The 3/16 inch holes drilled into these pipes are for the spaghetti feeder tubes leading to the plants on the slope. As many as thirty plants can be watered by each downhill pipe line since the additional gravity to the lower take-off tubes compensates for the pressure drop in the pipe line. Only low water pressure (less than twenty pounds per square inch) is needed to supply sufficient water to sixty outlets. About two hours of watering the hillside with the drip system provides good irrigation for at least two weeks during the hot summer months. □

Syzygium—Shrub or Tree?

by VIRGINIA INNIS

SYZYGIUM are semi-tropical shrubs or trees that are usually sold in nurseries as eugenias. Two varieties are grown in San Diego—*Syzygium jambos* (*Eugenia jambos*) commonly called Rose Apple and *Syzygium paniculatum* (*Eugenia myrtifolia*) commonly called Bush Cherry or Australian Bush Cherry. There is also a compact variety of the Bush Cherry. They all thrive in well-drained garden soil in the warmer regions of southern California from Santa Barbara southward. All will tolerate temperatures to freezing. Frost will cause burn and the plants will not tolerate temperatures much below 25°. *Syzygium jambos* is a slow growing plant that is easily maintained as a shrub needing little if no pruning. It is mostly inclined to be shrubby but can reach heights to 25 to 30 feet. The leaves are coppery green and at times can seem to be metallic. The spring bloom is silken brooms of greenish white fringe. The fruit of this plant is apple-like and most attractive. The color is beige rose to blushed pink. Mr. Stanley Miller, past president of the San Diego Floral Association and his wife (both are distinguished flower arrangers) grow this plant in their garden.

Syzygium paniculatum is a popular hedging and screening plant that will grow into a narrowish tree. Young foliage of the plant is reddish and regular foliage is rich green to coppery tinged. Flowers are somewhat like jambos in creamy white color. This plant most resembles the eugenia that bears the bright cranberry fruit, however, the fruit of this plant is usually larger and lavender-purple in color. It is very showy and stands up well in an arrangement. Mrs. Otto Crocker grows this plant and recommends planting it away from walks and places where dropping fruit would not be appreciated. She also reports that the plant easily reseeds itself and that it is a faster growing plant

than jambos. If you don't want a lot of pruning, she recommends purchasing the "compacta".

This author has jambos growing in a tub. The leaves were green when it was purchased and now they are metallic-like and pleasing to behold. One cannot grow everything that one would like especially shrubs that grow to tree size. But, there are a good many things that we can grow in tubs. Most plants are willing if we are. Syzygiums are lovely plants as shrubs, trees or potted plants.

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The Botany of the Boundary

by ANNE GALLOWAY

WHEN WE SEE the words "California, 1849" most of us think immediately of the Gold Rush, covered wagons across the plains, men struggling across the Isthmus of Panama, ships putting into San Francisco Bay and men converging upon Sacramento and Sutter's Fort. Most people living in the United States in 1849 were thinking the same way of central California and gold. But another, and much smaller group of men, was planning to visit southern California—but for a very different reason.

In 1848 the United States had acquired a vast territory from Mexico, becoming later the states of California, Nevada, Utah, and parts of Colorado, Arizona and New Mexico. There was much to be learned about the new territory besides the fact that gold had been discovered there. But first the new official boundary between the United States and Mexico had to be established.

There were few maps of this far western country, none of them very accurate. One showed the Rio Grande river a hundred miles east of its true location. There were additional problems. The boundary line from the Pacific Coast was to be drawn from a point one marine league south of the harbor of San Diego. There was no adequate survey of the harbor, and no accepted definition of the length of a "marine league".

Each country agreed to send a boundary commission consisting of surveyors, astronomers and engineers, to meet at San Diego on May 30, 1849, to map the territory and draw the boundary line.

Included in the United States commission were a number of natural scientists. Beginning about 1840, it was a policy of our government to send naturalists along with military expeditions into the western part of the continent to bring back knowledge of natural resources and potential

development. These men usually had duties besides collecting specimens of plants, birds, rocks and minerals. The botanists were carried on the books of the expeditions as surgeons, geologists, surveyors, "computers"—the job title really didn't seem to matter.

Over the years there were many changes in the personnel of the boundary commission, and eventually a number of botanists found their way to the border. They collected from Texas to the Pacific Coast, and sent their plants east for identification, classification and naming.

In 1849, the botanical situation was quite different from what it is today. Taxonomy was the dominant study, and for this there were good reasons. The work of Darwin and Mendel had not yet been published, nor had the microscope been perfected. Genetics, cytology and related studies were unknown. But there was plenty of work for the taxonomists. Large portions of the continent were still unexplored by white men and had not been subjected to their scientific scrutiny. There were, therefore, thousands of new plants to be collected, studied, classified and named.

Botanists tended to divide into two distinct classes—the closet botanists and the plant collectors. The principal closet botanists (we would call them herbarium botanists today) were Torrey in New York, Gray in Cambridge, Massachusetts and Engelmann in St. Louis.

Dr. John Torrey was a professor of chemistry at both the College of Physicians and Surgeons and at Princeton. He had the best herbarium in the country, was the senior authority on taxonomy, knew everyone in scientific circles and many people in government and the military—especially those responsible for surveys and explorations—and most important, he was interested in the botany of western North America.

At Harvard College was Dr. Asa Gray. Between 1842 and 1848 he had developed a botany department which featured plant physiology on an elementary level, lectures on systematic and geographical botany, and laboratory exercises in a botanic garden. He was an excellent taxonomist and author of the standard textbooks of his day.

Dr. George Englemann was a practicing physician in St. Louis who was the recognized authority on cactus and other difficult groups. As most exploring expeditions were fitted out in St. Louis, he was often called upon to help organize them. He knew the country and recruited plant collectors to go into the wilds and bring back new plants.

While the closet botanists worked in the laboratories and herbaria, the plant collectors took to the fields. They had to be good enough botanists to know what to collect, and how to prepare the specimens for shipment east. They had to be good travellers, hunters and mountain climbers, willing to live for months and years away from the cities. The financial rewards were very small. Some collecting was done by men who did nothing else, but often the collector had another occupation by which he earned his living. There were army officers, physicians, teachers, clergymen, farmers and ranchers who provided the closet botanists with specimens.

A few men like Thomas Nuttall of Philadelphia went exploring and collecting and then returned home to describe, classify and name their own plants, and the publish their results.

But Torrey, Gray and Englemann seldom had time for field work, and depended largely on the plant collectors.

At the time of choosing collectors for the boundary survey, every eminent botanist had his own candidate. Asa Gray at Harvard wanted the job for Charles Wright. Sullivant, a wealthy amateur in Ohio and authority on mosses, recommended Dr. John Milton Bigelow. Jacob Bailey, authority on algae and the microscope and instructor of botany at West Point, chose George Thurber. John Torrey's candidate was Dr. Charles Christopher Parry of Davenport, Iowa. He suggested Parry to Major William Emory of the Corps of Topographical Engineers.

Emory had been offered the position of Commissioner of the Boundary Survey, but had

declined it when the condition was made that he resign his army commission. He did accept the job of Chief Astronomer and Commander of the Army Escort, which effectively put him in charge. For several years the commission operated under political appointees but eventually, in 1854, Emory became commissioner and the final report of the survey was published under his name and titles of Major, U.S. Cavalry and Boundary Commissioner.

In 1849, then as Chief Astronomer, he accepted Torrey's suggestion and Charles Christopher Parry got a job as plant collector with the boundary survey. Parry was twenty-six years old and almost unknown as a botanist, but he was enthusiastic, hardy, well-educated, and most important of all, he was more than willing to send all his specimens to Torrey who, by this time, was in a most gentlemanly competition with his friend and former student, young and ambitious Asa Gray.

Dr. Parry's title was "Assistant Surveyor and Computer". His actual tasks were to collect plants and make notes on the geology of the regions mapped, to take weather data, and to render medical services as necessary.

Born in England in 1823, Parry came to this country with his family when he was nine years old. He was graduated from Union College, Schenectady, New York, in 1842, and received his M.D. degree in 1846 from the College of Physicians and Surgeons where he studied chemistry and botany with Torrey.

That summer Parry went out to Davenport, to establish a medical practice. It was soon apparent that he was more interested in botany than in medicine. In 1847 he collected with a survey party in Iowa and in the following year he collected in Wisconsin and Minnesota. His first published work was a systematic catalog of the plants of Wisconsin and Minnesota. He had sent the grasses, and all doubtful specimens from other families to Dr. Torrey, his former teacher. This was the beginning of an association which lasted until Torrey's death in 1873.

Parry was apparently a very pleasant, likeable man who made friends easily and kept them. He was intelligent and knowledgeable, but not aggressive about it. He was described as a quiet man, the type who knows a great deal more than most people thought. And, so, in 1849, he found

himself going off to California with the boundary commission, in the first surveying party to take to the field.

Although both the Mexican and the United States survey parties were held up by gold seekers they were in San Diego by the first of July and were ready to begin work. Major Emory set up Camp Riley on the Punta (Point Loma) near San Diego. He split his company into three groups. The first to establish the boundary point on the Pacific Coast, the second to survey the territory on a straight line between San Diego and the Colorado river, and the third to march directly to the Yuma area to map the confluence of the Gila and Colorado rivers.

Parry was assigned to the third team under Lieutenant Amiel Whipple. The party set out from San Diego in September, the hottest, driest time of the year, leaving from the San Diego Mission and travelling east and north through the Santa Maria Valley (where the present day town of Ramona is located) to reach the main east-west trail at Warner's ranch on Buena Vista Creek. From there they marched southeast, often at night to escape the scorching heat of the Colorado Desert. On September 22, Parry noted that it was 108° in the shade. In spite of these conditions, Parry made his collection of plants.

Lt. Whipple's party returned to San Diego in December and Parry was temporarily released from his duties as surveyor, "computer", and physician. He prepared his plant specimens for shipment to Dr. Torrey, but none of them ever reached New York.

In Parry's own words: "The important collections of this season were unfortunately lost in crossing the Isthmus of Panama while in charge of the late General A. W. Whipple, being probably involved in a disastrous fire while stored in Panama awaiting transportation.

In the subsequent year, 1850, this loss was partially made up by somewhat extensive collections in the vicinity of the Southern Boundary line, and including a land trip up the coast as far as Monterey."

Parry's itinerary in 1850 is not known with any exactness. His collections were made in the vicinity of San Diego, from the seashore to the foothills. He seems to have explored the San

Luis Rey region rather thoroughly, and to have retraced at least part of the journey from San Diego to the Yuma crossing.

Many of his plant locations are given simply as "Mountains east of San Diego". This is not very helpful. In the mountains east of San Diego are chaparral-covered slopes, oak woodlands, pine forests, and the tumbled heaps of almost barren rocks of the In-Ko-Pah range. Dr. Torrey never did manage to impress upon his former pupil the importance of giving more exact data.

"As he puts no information on the labels of his plants," Torrey wrote, "I sometimes make him sit down while I extract, little by little, what he knows about particular specimens in his collections."

But, on at least one occasion Dr. Parry was quite specific. In June of 1850 he wrote to Torrey: ". . . I have been some 20 miles up the coast to the mouth of the Soledad Valley to examine a seam of lignite which is exposed in the high bluff overlooking the beach. . . I have found here a new species of pine growing in sheltered places about the bluff. Its characters are so unique I am in hopes it may be non-descript. . . if new, I wish it with your permission to bear the name of *Pinus torreyana*. I subjoin the following characters." There followed a detailed description of the tree. Parry also sent a single cone and a bunch of leaves.

Years later, in a paper read before the San Diego Society of Natural History in 1883, Parry said that his attention had been called to the tree by John L. LeConte, the entomologist, "an insect-seeking friend of the pine-barrens".

The work of the Mexican Boundary Survey Commission continued for several years. Parry left California and collected in Arizona and New Mexico, and then returned to Iowa to write up his results.

Major Emory wanted all reports of the work to appear in one definitive report, but the various botanists connected with the survey had other ideas. Apparently the collections belonged more to the plant collectors and their sponsors in the academic institutions in the east than they did to the United States government.

Some of the collectors sent their specimens to Asa Gray at Harvard who published them separately before the official report was ready. More than twenty papers concerning the expedition,

its collections, and description of the territory surveyed appeared in scientific journals before Emory's report was published in 1858 and 1859.

Parry cooperated with his friends Emory and Torrey. He sent his specimens to Torrey and settled down in Davenport to work on his part of the official report, the introduction to the section on botany.

This introduction seems to deal mostly with California plants and geography. In it Parry discussed California as a region for settlement by American farmers. He stated that agriculture was possible only in favorable locations where there was a constant supply of water, a surface suitable for irrigation, and a low elevation, for the winter season in the mountains could be long and cold.

But of course this analysis did not please those who believed in the American dream of beautiful, bountiful California, and they chose to ignore it. Men were skeptical about official government reports even in those days. A great number of farmers came to California, tried eastern methods of agriculture in this land of no summer rain, and went broke. Eventually they learned that Dr. Parry had been right.

The major portion of the Botany of the Boundary was written by Torrey, Gray and Engelmann. The survey resulted in the descriptions of new species, revisions, and extensions of the ranges of certain plants.

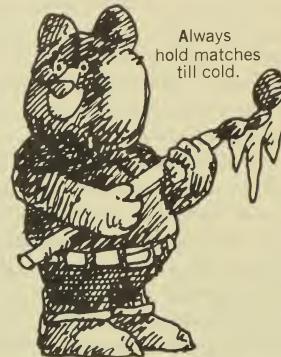
According to one count, Dr. Torrey classified 2,648 species brought back by the field collectors. Many of these, however, were already known from the work of Haenke, Nuttall and others.

In his lifetime Parry collected numerous California species which were new—32 of them from San Diego County. Those from the boundary survey years include besides *Pinus torreyana*, the following: *Bloomeria crocea*, *Agave shawii*, *Jepsonia parryi*, *Condalia parryi*, *Cereus emoryi*, *Opuntia parryi*, *Mirabilis californica*, *Carex triquetra*, *Phacelia parryi*, *Pestemon ternatus*, *Hulsea californica*, and others.

These were only a part of his contribution to the great scientific inventory of the natural resources of the new territory. Later Parry collected and studied the flora of the California mountains and deserts, and of the Rocky Mountains.

He was always proud of his work on the Mexi-

can boundary survey. In 1883 he wrote an article for the magazine OVERLAND. His subject was "Early Botanical Explorers of the Pacific Coast". Among others he mentioned David Douglas and Dr. Thomas Coulter, and he described the work of Thomas Nuttall at some length. He concluded by discussing the labors of the botanists of the Mexican Boundary Survey, including those, of course, of Dr. Charles Christopher Parry. □



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Epiphyllums

by DON IRWIN

TO EACH his own—mine? The epiphyllum. Some gardener is credited with saying "They are unlike most tropical plants, for even though sorely neglected or given the very minimum of care, your epiphyllum, like your dog, will reward you most generously. Their beautiful flowers with their rainbow hues, will bring you just a bit closer to heaven itself, for they will make you feel that, at last, you have found the end of the rainbow."

Early European botanists, exploring the luxuriant jungles of the "New World" found wonderous plants growing high in the jungle trees. These plants were strange indeed. They had the habits of the orchid. They hung pendant from high in the trees. Their flowers seemed to be borne directly from the ends of the "leaves". The blossoms they produced bloomed mostly at night giving forth a lily-like fragrance from their huge white flowers.

In 1812, the great botanist Howarth, described the genus as "epiphyllum" and gave a rather complete description of its first species as *Epiphyllum phyllanthus*. However, not much attention was paid him and in 1831, the botanist Link described the genus as "phyllocactus" — said name being generally accepted throughout the "Old World". In America, we remained blissfully unaware of the beauty we were missing. Only a few of the wild species had been brought to the United States.

Only sixteen wild species of epiphyllums are recognized. However, a complete list of epiphyllum hybrids, including both American and European varieties, now numbers over 3,000.

Many of the beautiful hybrids we grow today were developed by early hybridizers in this country and abroad during the late 1800's and early in this century. Today, more and more men and women are becoming hooked on growing and hybridizing these beautiful flowers. □



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Chinese Iris

by ED PASAHOW

"WHEN HAPPY, paint the iris. . .", Ch'en Hung-shou was probably thinking of an iris that is a close relative of our Pacific Coast native irises when he painted these words on a scroll during the Ch'ing dynasty. Undoubtedly Ch'en's iris was a member of the *Sibiricae* subsection which grow in China and is also an ancestor of our native *Californicae* iris. One can imagine how countless thousands of years ago animals and people migrating over a land bridge between the North American and Asian continents carried iris seeds, possibly caught in their hair or clothing, to this continent. The seeds fell to the ground, grew and through the centuries, evolved into the Pacific Coast native irises of today.

Many California gardeners have come to know the richly colored, and often distinctly veined, Pacific Coast native iris, but few are acquainted with the Chinese relatives of the *Californicae* irises. There is a particularly close relationship between the *Californicae* and several species within the *Sibiricae* subsection. It is unfortunate that the name Siberian iris has come to be associated with this subsection because these irises are distributed from Europe to Japan. The center of the distribution is Southwestern China (Yunnan) with the irises that are the subject of this article being confined to the area around Yunnan including the Himalayas from Nepal eastward, upper Burma, Southeast Tibet and the provinces of Shen-Si, Western Hupeh and Szechuan. The similarities between these two geographically separated iris families extend to identical chromosome counts for both sets of species ($2n=40$). This leads immediately to the implication that inter-series hybrids could be produced in the garden, and as expected, this is indeed the case. One of the more famous of these hybrids is Margot Holmes which has won the British Iris Society Dykes Memorial Medal, the

highest honor in iridom. Many hybridizers are busily creating newer examples of these hybrids, referred to as Cal-Sibes, but most of the hybrids do not grow well in southern California and most of the flowers are sterile. This sterility limits how far the hybridizer can go in improving the breeding of the flowers. However, neither of these problems are experienced with one of the most beautiful of the *Sibiricae* species, *Iris chrysographes*, which is probably the finest garden plant of the subsection.

Before discussing this outstanding example of *Sibiricae*, it is interesting to consider the similarities and differences between it and the Pacific Coast native irises. The descriptions in the rest of this paragraph are necessarily technical and may be skimmed without loss of continuity. One of the primary methods of comparing plants is to study the heredity carrying structures within the cells of the plant (cytology) which involves the chromosome count mentioned above. It is this feature that most strikingly indicates the closeness of these families of irises. Other similarities besides the obvious look-alike flowers and foliage, include the triangular seed capsules of both plant families in contrast to the hexagonal capsules characteristic of many other irises. The next similarity is in the structural components of the flower. The slender perianth tube which connects the standards, upright petals of the flower, and falls, lower and outer flower segments, with the part of the stem which surrounds the ovary being short in both iris families are other similarities. Furthermore, seeds of both are cubical or D-shaped, and the flower parts that receive pollen, the stigmas, are a projecting triangular tongue in both families. Primary differences are found in the rhizomes which are slender and reddish with few root fibers on *Californicae* while they are stout and brown with many root fibers on *Sibiricae*. Another major difference is

that the *Sibiricae* have hollow stems while the *Californicae* have solid stems.

The graceful charm of a clump of *I. chrysographes* comes from the numerous flowers growing on slender stalks which flutter in the gentlest of breezes. As we look closer at the beautiful flowers of *I. chrysographes*, we see that the deep-violet bloom has beautiful golden veining on the falls. In fact, the flower's name is derived from the Greek words for golden colored writing. This gold veining against the dark background is so striking that one is reminded of the brushwork of a Chinese calligraphic scroll. The Northern Chinese style of painting is referred to as the "gold-line", so it is not impossible to think that this iris may have influenced some of the Chinese master painters. Two flowers are produced on each stalk, blooming in succession, and the leaves are narrow and grass-like. The height is about twenty inches, but it may range from ten to thirty-six inches. The delicate standards are inclined and the large veined falls are pendulant. Bloom extends from early to late in the season depending on garden climate and variation between plants. Colors can vary from red-violet to deep blue-violet approaching black. Two distinctive variations which have received names are Rubella and Kew Black.

I. chrysographes is easy to grow from seed and it blooms in two to three years. The plants grow in any good rich soil which is never allowed to dry out. If one is fortunate enough to have a garden stream, they make excellent waterside plants and seem to do best in such a location. Partial shade or a sunny location are both acceptable. In preparing the seed bed, a generous supply of compost such as leafmold, redwood humus or peat moss should be used as an acid soil condition is most desirable. In the early spring an acid fertilizer may be applied. Leaves can be cut down in winter to tidy the garden and to get rid of possible diseases and pests which may "winter-over" in dead foliage. As these plants are shallow rooted, cultivation should be minimal. The plants do best if left undisturbed for many years, but when division becomes necessary, a bare ring will develop in the center of the clump. When dividing, do not break into small pieces, but replant large clumps with the crown of the plant at the same depth that it was prior to division. The best time for

dividing plants is from July through September.

Try growing the rewarding *I. chrysographes* and you will have a flower that is easy to grow, disease free and excellent for beginning gardeners. Even if all this cultivation advise is ignored, and the plants are put in any reasonable soil and left alone with a little water, the iris with the "golden colored writing" will do quite well. □



The Scent and Savor Garden

by ROSALIE GARCIA

THE WHALEY HOUSE Herb Garden on San Diego Avenue is the only herb garden on park land in San Diego. It is a 30x30 foot plot in front of the old street car, between the buildings marked The Carving Tree and the President's Museum. It came about in 1968 after these old buildings were set in place, leaving a space crying for fulfillment. June Reading, Director of the Whaley House mused that the Whaleys must have had a herb garden, because herbs were a part of every garden in that age. Tom Crist, who had been active in moving the old houses into place suggested that I coordinate the establishment of a herb garden in that plot. Certainly there are more knowledgeable herbalists in the area, but I do grow many of the culinary herbs and was interested. I decided I would call on the experts and get going.

Alice Clark consented to draw up a blueprint and supervise the planting. She studied plans of the knot gardens of England and came up with a proper scale of beds bricked in to conform to the geometric patterns popular in English and Early American gardens. There was already a five-foot adobe wall along the back line of the plot. In this 30-foot square, the brick paths and outlines for the beds were laid. Alice had consulted Jane Minshall, a landscape architect, who approved the plans and inspected the soil, which is decomposed granite and sand that would need some soil amendments. Mr. Chayevsky of Butler's Mill sold us twenty sacks of loamite at wholesale, which was paid for by the La Jolla Garden Club; my husband, Jose, spread it and dug it into the plot.

On a fine day in December, 1968, Alice Clark Craig Walker, Olga Moehlman, Polly Whigham and I gathered at the raw plot with tools, potted plants, cuttings and seeds. Alice sat on a stool in the middle of the plot with her planting plan and called the shots as Craig dug holes and the rest of us set out

the plants. Not everything turned out as Alice had visualized, and many were dug up and replaced. By lunch time we had not finished and stopped for a picnic lunch under the old pepper tree by the watering trough. By 3:00 p.m. all plants were in place and it had the look of a herb garden.

This garden has been the product of many hands, gifts and ideas most of which have come from members of the San Diego Floral Association, even though it was not an official project. The Historical Shrine Foundation, the group that manages the Whaley House, has the responsibility for the plot now. There is no funding for the garden. Fertilizer, plants and additional humus are all donated. The original planting came as donations from many gardens, much of it from Alice Clark. Clara Nourse gave us two beautiful hybrid Cleveland sages with their enchanting aromas. Josephine Gray, our herb editor, gave us the unusual rosemarys with their candle-like branches and deep blue flowers, as well as annuals and seeds. Mary Jenkins, who gave us several thymes, a rosemary and other plants, has also given cash for plant replacement. Watering and weeding have been carried on by Helen Mattenklodt, who is most faithful. Beverly Kulot has lugged her hose and key down to water when others were on vacation. The Coordinator looks in almost weekly and sees that the pruning, replanting and fertilizing goes on. Kenneth Parsons, the woodcarver, takes pity on the garden on hot days and gives it a good shower.

The garden, as Alice Clark envisioned it, would have been a balanced landscape of sweet smells and culinary savors. But, the garden has had its ups and downs and is not now as she had originally planned. The beautiful Cleveland sages shot up amazingly, then collapsed. They could not take all the moisture we lavished on them. They are plants of the desert. We have never been

able to establish a corner for the drought-loving plants. The one we set aside at a corner next to the wall is in an area used by some of the public as a runway to jump over the wall. The plants have been trampled. The dainty and aromatic diosma has never recovered from a smashing it took as some unknown crashed down on it as they came across the wall.

Miss Leila Sykes gave us a bronze-faced sundial which Bill Gunther set up in the center where it could get sun all day. In a week the pointer disappeared. In a year the whole bronze face had been pried off. Recently plant piracy has removed several of our young and rare herbs. Shallots are barely mature before they disappear. Still there are lavenders, myrtis, lemon verbena, sweet bay, rosemary, scented geraniums, comfrey, blue-eyed borage and daisy flowered fever, few in bloom all the year. In spring, gay nasturtiums climb the wall. In late summer yarrow bloom. The

clumps of Society Garlic send up spikes of blue-lavender flowers. The small rosy-lavender flowers of the germander bear close inspection; the ferny southernwood, pale tender spikes of sorrel seed stems, the blue-flowered chickory that stay open only until noon, all look down on winter savory and marjoram. The mints and the big clump of ginger along the wall of the President's Museum add a cool lush effect. In Spring the violets and orange calendulas remind us that they are herbs. In fall, the marigolds get their turn. The trailing Easter lily vine along the wall has taken so much buffeting that it has never bloomed, but its glossy foliage is graceful and beautiful. In all, there are about fifty different herbs.

A public garden unguarded is open prey for some, but thousands who stroll through the Whaley House grounds every year get a whiff of a heady aroma that stops them, surprises them and often delights them. Alice Clark's dream of a "scent and savor garden" does live up to what it was meant to be. □

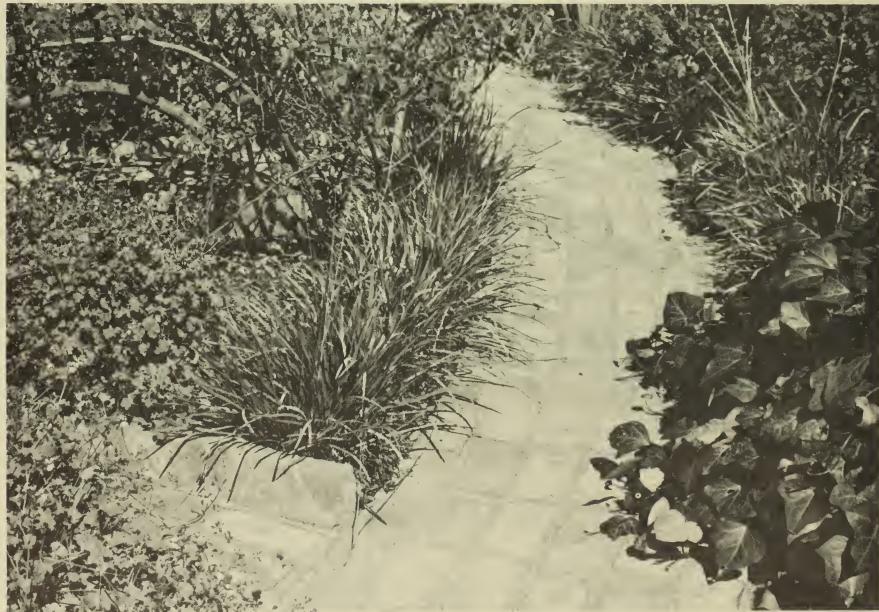


Photo by BETTY MACKINTOSH

now is the time

-A Cultural Calendar of Care from our Affiliates-

BEGONIAS

MARGARET LEE

- ✓ to put down tubers to sprout.
- ✓ to cutback in other types when evidence of new growth appears.
- ✓ to repot.
- ✓ to feed.
- ✓ to control disease and pests by spray and bait.
- ✓ to free plants of dead leaves, spent blooms, and rotted rhizomes.
- ✓ to start new plants from leaves, cuttings and seeds.
- ✓ to pot up sprouted tubers in the late part of this period.
- ✓ to clean up the garden.
- ✓ to keep plants moist but NOT WET.

BONSAI

HERBERT MARKOWITZ

- ✓ to gradually move bonsai into the sun; the deciduous trees which are beginning to sprout new growth should be gradually exposed to the sun in order to avoid scorching the new leaves.
- ✓ to remove excess blossoms on deciduous and fruit-bearing trees; leave just enough blossoms for interesting viewing.
- ✓ to carefully increase the amount of watering gauging the amount of water each tree needs by how much new growth is present and by the weather conditions. Deciduous trees with much new growth need more.
- ✓ to graft deciduous trees.
- ✓ to add corrective substances to the soil; small amounts of chelated iron or acidifying preparations may be needed if the alkaline salts have built up.
- ✓ to hold off fertilizing until April.

BROMELIADS

THELMA O'REILLY

- ✓ to start a snail control program.
- ✓ to spray for scale infection; fertilize too.
- ✓ to trim damaged leaves resulting from the cold weather—remove the entire leaf if necessary.

CAMELLIAS

BENJAMIN BERRY

- ✓ to select your new plants from the nursery while they are still in bloom.
- ✓ to make grafts.
- ✓ to maintain even moisture with weekly water.
- ✓ to transplant.
- ✓ to remember to NOT fertilize a newly transplanted camellia.
- ✓ to feed newly transplanted camellias with Vitamin B-1.
- ✓ to start selective pruning to remove inside and crossover branches.
- ✓ to start a regular spraying program.
- ✓ to keep fallen blossoms picked up to prevent an infestation of "petal blight".

DAHLIAS

ABE JANZEN

- ✓ to remove tubers from storage and check for crown rot or soft spots and place in starting medium like vermiculite or sand.
- ✓ to watch for too much moisture.
- ✓ to prepare planting area by adding humus and fertilizers such as 2½ pounds of superphosphate and 2½ pounds of sulphate of potash per 100 square feet.
- ✓ to plant larger varieties after ground temperature has reached 55°. Dig holes six inches deep, mix in bone meal, plant sprouted tuber on its side with sprout up and two inches from stake. Cover with two inches of soil, moisten, but do not keep wet.
- ✓ to protect against snails.

EPIPHYLLUMS

GENE SCHMEDDING

- ✓ to put out snail bait.
- ✓ to spray with systemic insecticide (if you don't eat the fruit).
- ✓ to check for mealy bugs—use rubbing alcohol.
- ✓ to tie up any wayward branches.
- ✓ to check newly forming buds to make sure their tips are not pushed against trellis.
- ✓ to fertilize for the last time before blooming.

FERNS

RAY SODOMKA

- ✓ to spray for aphids and scale.
- ✓ to remove all dead fronds.
- ✓ to fertilize with high nitrogen liquid or pellets.
- ✓ to divide, repot or add leaf mold.
- ✓ to water and keep surrounding areas damp to help maintain humidity.
- ✓ to plant spores.

FUCHSIAS

WILLIAM H. SELBY

- ✓ to make the last effort to prune and shape your fuchsias.
- ✓ to continue taking cuttings to perpetuate your stock.
- ✓ to pinch those plants that have grown enough from early pruning. Continue pinching as soon as three pairs of leaves form.
- ✓ to feed with high nitrogen fertilizer when new growth has formed.
- ✓ to keep a close watch for white fly and/or inch worms. Use Malathion 50 at the first sign of infestation.

GERANIUMS

GLORIA CAVANAUGH

- ✓ to watch for aphids and white fly—spray if needed with Malathion.
- ✓ to check plants in pots for repotting and move to next larger size.
- ✓ to pinch and prune plants to make bushier growth, and more shapely plants.
- ✓ to remove dead leaves and blossoms.
- ✓ to try luxury feeding; balanced food mixed half-strength and use twice as often as directed on package or bottle.

IRIS

SOCIETY

- ✓ to water regularly.
- ✓ to fertilize with low nitrogen all-purpose or liquid fish fertilizer.
- ✓ to use systemic spray to control aphids and thrips.
- ✓ to keep weeds under control.

ORCHIDS

LOIS DONAHUE

- ✓ to move pink, green and yellow cymbidiums to areas of 50 per cent shade.
- ✓ to give cypripediums a little more shade.
- ✓ to give seedlings all possible light without burning.
- ✓ to give growing plants more room.
- ✓ to continue 10-30-10 feedings for cymbidiums.
- ✓ to keep dead leaves and sheaths cleared off.

ORGANIC GARDENING

JOHN MILLER

- ✓ to gather sea weed and use as substance in compost.
- ✓ to plant flowers—wild flowers—herbs et cetera in all frost free areas.
- ✓ to start rooting penny royal, mint, and tansy. These will help prevent fleas and ants.
- ✓ to plant herbs in containers then they may be placed near any troubled spot. May be used to repell harmful insects.
- ✓ to use 100 per cent organic fish emulsion.

ROSES

SUE & DICK STREEPER

- ✓ to remove side buds to produce large, long stemmed blooms.
- ✓ to insure that plants get adequate water—5 gallons per bush per week.
- ✓ to spray or wash plants to check mildew and aphids.
- ✓ to fertilize to support heavy spring growth; withhold nitrogen fertilizers when buds show color.

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Region 15 Irises

by SANFORD ROBERTS

TO MANY IRIS fanciers, one of San Diego and Riverside counties strongest attractions is the impressive gardening climate of both. With a growing season of nearly 365 days, San Diego—headquarters for the American Iris Society Convention in April 1975—allows gardeners to grow everything from a favored eastern tree to an equally favored subtropical plant. It provokes wonderment that in a climate where gardeners might combine southern magnolias, Canary Island date palms, English ivy, Italian cypress, Persian silk-trees, Indian figs, Chinese wisteria, Japanese azaleas, Australian tree-ferns, Mexican agaves, Brazilian philodendrons, Peruvian pepper trees and California redwoods, that iris would not be relegated to some back spot in the garden—far from it! What is more amazing is the concentration of hybridizers within the Region 15 of the American Iris Society. Not content to devote their energies working with the aforementioned abundance of “imported” flora that has been readily adapted to grow in Region 15, they wield their magic of hybridizing in the iris world and it is about them that we now write.

In Santa Monica, Thornton Abell created Saffron Jewel to win the William Mohr award in 1971. Other interesting Abell creations are Vesuvius and Warning Clouds.

San Diego is often referred to as “spuria country” and rightly so—Walker Ferguson (now retired) could be called the “Dean of Spuria Hybridizers” and from his former garden 30 miles north of San Diego have come 40 to 50 spurias for the fanciers. Mr. Ferguson’s work with spurias has been rewarded with four Neis awards. Thrush Song (1964), Wakerobin (1966), Dawn Candle (1968) and Baritone (1970)—all Nies award recipients. Without being politic, this writer’s favorite Ferguson introductions remain Windfall (1965), Proverb

(1971) and Redwood Falls (1969).

Doris Foster, known for her interest in arils and arilbreds, and recently located in Vista, has won two C. G. White awards—Bethelhem Star (1969) and Bethelhem Song (1973). The William Mohr award for 1973 was awarded Mrs. Foster’s Fairy Goblin.

From the Perris garden of Bernard and Celeste Hamner in Riverside County, have come Becky Lee, Burning Desire, Honey Nectar, Think Pink and Top Executive and a host of new ones being guested during the 1975 convention.

William Hawkinson of El Monte has given us Grand Vizier, Enchanted Hour and Dome of Omar for the aril-bred lovers.

Lerton Hooker in Spring Valley (formerly of Illinois) and the most southwestern garden on the 1975 tour, has had to learn like a lot of California iris lovers—what makes it in the colder areas may never perform in southern California. Mr. Hooker’s Black Charm won the Gold Medal at the International Garden Festival, Hamburg, Germany in 1963. Lerton’s new Congo Magic, while happy in colder climates, resents our subtropical clime, even in its creator’s garden. His newest, Madge Miller, created in Illinois, blooms eleven months of the year in his Spring Valley garden. Ironic, when it was a once-a-year performer in its birthplace in Illinois. This white increases just as well as it blooms, too.

Grand Spectator, Golden Spectator and Champagne Magic, creations of Mrs. Susan Haney of Highland, have given fine performances since introduction, including often reblooming at the right time for fall iris shows. Grand Spectator provided 14 stalks a few years back for our Christmas dinner table decor. Alas, we frankly don’t give a hang about rebloomers unless they are “red” which continues as our favorite of all colors.

Eleanor McCown, Holtville (in the low desert farming community of Imperial Valley) can't grow tall bearded and she turned to spurias for her interest in iris. Eleanor's Highline Lavender copped the Nies award for 1971. Mrs. McCown's list of her favorite introductions are Ruffled Canary, Highline Lavender and Imperial Bronze. We agree.

August Phillips, Inglewood, works with Pacific Coast natives—a growing interest in the West—and his red-colored Native Warrior, Susie Knapp and Verdugo are gaining in popularity. Augie (1974), a new Pacific Coast native appears to accept a wider tolerance of climate and soil.

Lura Roach, Los Angeles, created a virtual giant in vigor in her Song of Erin. Her recent Grape Accent, Valencia Vamp and Waltzing Widow are gaining in tempo, as is her Smoke Curls (BB).

Mark Rogers, Yucaipa, specializes in arilbreds, but created Picture Perfect in tall bearded form and Mark gave us the Saracens—Jewel, Prince, Splendor and Warrior to plant in arilbred gardens.

Neva Sexton, Wasco, put two Dykes on her mantle by her creativity with the tall bearded. Pacific Panorama and New Moon are widely grown and acclaimed. Mrs. Sexton's hybridizing wizardy continues to flow out of Wasco across the land in the form of many popular introductions.

Harry Tate, Riverside, takes no sojourn from arils and arilbreds. It is not surprising that his Sojourn won the William Mohr award in 1974.

Collie Terrell, Wasco, is perhaps best known for the lovely white Flight of Angels, winner of the Clara B. Rees cup in 1971. His later whites include Angels Unaware and Trill. Mr. Terrell's huge yellow-white creation, Reta Fry, gives top performances each year in this area.

Marion Walker, Ventura, has worked with Pacific Coast natives and spurias. His Ojai won the First Mitchell award in 1973. Mr. Walker's spurias Morningtide (1956) and Driftwood (1959) each won the Nies award.

Tom and Wiloh Wilkes, Tujunga, have contributed much to arilbred work. Their Imaret won the C. G. White Award in 1966.

Mrs. Stephana Woodside of Redlands gave the hybridizing world a blue Pop O'Sha a few years back and four introductions in 1974 appeared by use of it. These are interesting 'wants' of the future. Her Wind River, Wyoming Wind and other

late introductions are highly favored.

That's seventeen from Region 15. There are others, but we wanted to show the diversity that hybridizers have sought and given (through their hybridizing efforts) to the iris loving public.

Two ladies from San Diego-Imperial Counties Iris Society have given us two fine introductions in the past few years—the late Mrs. Ruby Cooper combined Bang X (April Showers x Molten) and gave southern California a large ruffled white Cascade Pass that blooms all year in these parts. It is usually exhibited from January through the late June iris shows and then comes right back for the November shows. Lois Weaver gave us the lovely Pacific Coast native Native Jewel in a wide light lavender color. A most enjoyable iris! □



BETHLEHEM STAR

Siberian Irises

by VALERA CHENOWETH

SIBERIAN IRISES really are different. They differ remarkably from all other irises in that their foliage and their bloomstalks simultaneously are very slim and yet very tall. In the San Diego area, some well grown varieites have blossoms which are held over three feet high by slim, hollow stems that have the approximate dimensions of a drinking straw. In comparison with bearded irises, the beardless blossoms of the Siberian irises are smaller, more delicate and more graceful. A clump of Siberian iris variety, cut at varied heights, with attached foliage, and set close together in a pinholder, make a centerpiece arrangement for the dinner table which is so attractive that it will become the focal point of the dinner-time conversation.

Siberian irises resent being transplanted, so select sites carefully, prepare soil and plan on leaving the iris undisturbed for several years. Fall is the usual time for transplanting so if possible prepare sites several weeks in advance. Siberians need soil with lots of humus on the acid side with good drainage. They will not tolerate bog conditions but like plenty of moisture. Never, never permit the roots to dry completely. Soil may be acidified by adding soil sulphur at the rate of one pound to one hundred square feet—work in humus from compost pit, or manure and leaf mold. Siberians are deciduous and will probably lose their leaves after transplanting and die back in winter, but will grow again in the spring. They grow in full or half-day sun. Feed in spring and fall by digging in around the clump with acid food such as camellia food, cottonseed meal or fish emulsion.

Now during blooming season, is the time to visit iris gardens and to look at the various Siberian iris varieties to decide which kinds you would like for your own garden. Take notes on those varieties, then order starts of them for transplanting into your own garden when they arrive. □

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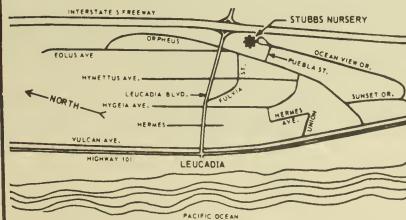
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Sec. Sun., Casa del Prado, 7:30 p.m.

Pres: William McColl—271-0731

8613 Bennington St., S.D. 92117

SOUTHWEST HEMEROCALLIS SOCIETY

Four meetings per year, Oceanside

Federal Savings, Vista, California

Pres: Mr. Ray Chesnich—744-3851

418 Buena Creek Rd., San Marcos 92069

SOUTHWESTERN GROUP, JUDGES'

COUNCIL CALIFORNIA GARDEN CLUBS, INC., First Wed., Casa del Prado, 10:30 a.m.

Pres: Mrs. Jess Gordon—264-4167

319 South 39th Street, S.D. 92113

THE VILLAGE GARDEN CLUB OF LA JOLLA, Fourth Thurs., 1:00 p.m., L.J. United Methodist Church, 6063 La Jolla Blvd.

Pres: Mrs. David Westheim—459-9485

1877 Spindrift Dr., L.J. 92037

OTHER CLUBS

Balboa African Violet Society

Pres: Mrs. Leonard King—298-3754, 3327

28th Street, S.D. 92104

Bernardo Gardeners

Pres: Mrs. C. Lee—487-3454, 12702

Abra Drive, S.D. 92128

Bonita Valley Garden Club

Pres: Mrs. Carol—479-7777

4967 Gran Gloria, Bonita 92002

Bridge & Bay Garden Club

Pres: Mrs. E. Boyd—435-0056

910 7th Avenue, Coronado 92118

California Rare Fruit Growers

Fdr. Paul Thomas—758-0054

Star Tr., Bonsai 92003

Carlsbad Garden Club

Pres: Mrs. Warren White—757-3966

4819 Luna Dr., Oceanside 92054

Chula Vista Garden Club

Pres: Mrs. William Rathman—420-6468

240 Chula Vista St. C.V. 92010

Chula Vista Rose Society

Pres: Marianne Truby—422-3350

4035 Monserrate Ave., C. V. 92011

Coronado Floral Association

Pres: Richard Hathaway, Sr.—435-5410

424 "C" St., Coronado 92118

County Civic Center Garden Club

Pres: Jane Soncini—274-2628

3366 Llows St., S.D. 92117

Crostown Garden Club

Pres: Charles T. Williams—284-2317

3865—41st Street, S.D. 92105

Crown Garden Club of Coronado

Pres: Mrs. Ware Marshall—435-8079

420 Ninth St., Coronado 92118

Dos Valles Garden Club

Pres: Mrs. T. Teal—749-1880

30010 Lilac Rd., Valley Center 92082

Escondido Garden Club

Pres: Mrs. Ruth Unruh—745-8274

P.O. Box 2162, Escondido 92025

Fallbrook Garden Club

Pres: Joe E. Gable—

730 S. Live Oak Park Rd., Fallbrook

Green Valley Garden Club

Pres: Mrs. Charles E. Chandler

13627 Jackrabbit Rd., Poway 92064

grossmont Garden Club

Pres: Mrs. Monroe S. Swanson—447-1968

1193 Tree Lomas Dr., El Cajon 92021

Hips & Thorns

Pres: Mrs. Eugene Cooper—295-7938

4444 Arista Drive, S.D. 92103

La Jolla Newcomers (Garden Section)

Chair: Mrs. Kay Russell—452-1467

Lakeside Garden Club

Pres: Lucy Mae Carender—448-5139

928 Riverview Ave., Lakeside 92040

La Mesa Garden Club

Pres: Mrs. Harry Ford—583-4320

4851 Lorraine Dr., S.D. 92115

Lemon Grove Woman's Club

Pres: Mrs. Emmett Phares—466-9430

P.O. Box 303, Lemon Grove, 92045

Men's Garden Club of San Diego

Pres: Mr. M.L. Barksdale—222-2884

3756 Milan St., S.D. 92107

Mira Mesa Garden Club

Pres: Mrs. Fred Federich—566-1729

10381 Lipscomb St., S.D. 92126

Mission Garden Club

Pres: Mrs. Vera Elmair—478-5680

Potrero Valley Road, Potrero 92063

National Fuchsia Society, Encinitas

Pres: Mrs. Phyllis Kausky—282-0835

4543 - 36th Street, S.D. 92116

North County Rose Society

Pres: Mrs. Charles Horton—746-3711

2847 Bernardo Ave., Escondido 92025

North County Shade Plant Society

Pres: Jim Ca mpbell—278-4372

2903 Greyling Dr., S.D. 92123

O.C. It Grow Garden Club

Pres: Mrs. R. D. Dean—724-6309

749 Ann's Way, Vista 92083

Oliver Club of San Diego

Pres: Mrs. Walter Wurzburg—276-4667

2936 Havasu St., S.D. 92117

Organic Gardening Club

Pres: Fred Nimitz—479-7585

3815 Valley Vista, Bonita 92002

Pacific Beach Garden Club

Pres: Mrs. J. J. Armead—273-4318

4271 Cindy St., S.D. 92117

Palomar Cactus & Succulent Society

Pres: Mrs. Arthur Wollrich

4150 Skyline Road, Carlsbad 92008

Palomar Orchid Society

Pres: Charles Wheeler—487-2279

17164 La Libertade Dr., S.D. 92128

Poway Valley Garden Club

Pres: Mrs. J. Bowen—748-5473

1238 Bouldin View, Poway 92064

Quail Creek Foundation, Inc.

Acad: Pres: Mrs. A.R. Seibert—745-6933

758 East 5th Ave., Escondido 92025

Rancho Bernardo Seven Oaks Garden Club

Pres: Leon Kringle—487-5173

16523 Rocca Dr., S.D. 92128

Rancho Santa Fe Garden Club

Pres: Joseph Coberly—

P.O. Box 484, Rancho Santa Fe 92067

San Diego Bromeliad Society

Pres: Mrs. T. M. O'Reilly—463-6788

1942 La Playa, Lemon Grove 92041

San Diego County African Violet Society

Pres: Mrs. Dorothy Smith—748-2184

1924 Berlin Street, Poway 92064

San Dieguito Garden Club

Pres: Mrs. Wm. Gaupsas—753-7253

2061 Mackinnon, Cardiff 92007

San Dieguito Nerida Club

Pres: Mrs. Roman Shore—728-7044

Rt. 3 Box 2-B, Fallbrook 92028

San Miguel Branch, American Bonsai Society

Pres: Mrs. Ray Sembler—466-9165

7824 Normandie, La Mesa 92041

Solar Garden Club

Pres: Richard Johnson—276-4640

2121 Frankfort Street, S.D. 92110

University City Garden Club

Pres: Mrs. N. R. Carrington—453-3383

6283 Buisson St., S.D. 92023

Vista Garden Club

Pres: Mrs. M. Ammerman—726-6996

2072 Eleventh, Vista 92083

Vista Mesa Garden Club

Pres: Cindy Harless—275-0129

3310 Apache Ave., S.D. 92117

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